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Family Cooccurrence of "Gender Dysphoria": Ten Sibling or Parent–Child Pairs[1]

Richard Green, M.D., J.D., F.R.C.Psych[2]

Ten (10) sets of siblings or parent–child pairs concordant for gender identity disorder (transsexualism) or gender identity disorder and transvestitism are reported. For concordant gender identity disorder, there is one set of male monozygotic twins; three sets of non-twin brothers; one brother-and-sister pair; one set of sisters; and one father and son. With gender identity disorder and transvestism, there is one transsexual father with a gender dysphoric; transvestic son; one transvestic father with a gender dysphoric, transvestic son; and one transvestic father with a transsexual daughter. The emerging technology of genetic markers makes collation of such families a potentially valuable resource for unraveling the origins of atypical gender identity.

KEY WORDS: transsexualism; transvestism; gender dysphoria; genetics; family studies.

INTRODUCTION

Although speculation has been rife for decades suggesting a biological or genetic basis for transsexualism (Green and Money, 1969), little supportive evidence has been advanced. A posited HY antigen etiology was proposed when a series of male transsexuals were reported to lack this antigen that is largely responsible for male differentiation (Eicher *et al*., 1979). However, a replication effort failed when another series of male transsexuals were all found to have the HY antigen (Wachtel *et al*., 1986). Some reports indicate a higher than expected rate of polycystic ovarian disease, with the accompanying elevated androgen levels, in female transsexuals (e.g., Futterweit *et al*., 1986). However, the fit between the

[1]Some patients reported here have been seen by other psychiatrists as well as the author, including Ghazala Afzal, James Barrett, David Dalrymple, Don Montgomery, Mark Morris, John Randall, Russell Reid, and Ashley Robin.

[2]Research Director and Head, Gender Identity Clinic, Imperial College, School of Medicine, Charing Cross Hospital, London W6 8RF England.

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two disorders is loose: nearly all females with this disorder are not transsexual, and the majority of transsexual females do not have the disorder (Gorzynski and Katz, 1977; Raboch *et al*., 1985). Another endocrine finding, requiring confirmation, implicates an atypical form of congenital adrenal hyperplasia in female transsexuals (Dorner, 1991; Bosinski *et al*., 1997). An anatomic study found a brain difference in the size of the bed nucleus of the stria terminalis in male transsexuals. In 6 patients studied postmortem, collected over 10 years, this nucleus was closer to typical female size than to typical male size (Zhou *et al*., 1995).

Indirect markers of a biological origin have been reported more recently. These include hand use preference (reflecting prenatally organized cerebral laterality) with both male and female transsexuals more often non-right-handed than controls (Green, unpublished); fingerprint asymmetry patterns that develop prenatally and may be sex-steroid influenced, with homosexual transsexuals, male or female, differing from control males and females (Green and Young, 2000); birth order, with homosexual male transsexuals having more older brothers, a finding similar to that with homosexual male non-transsexuals (Green, 2000); and male transsexuals having more maternal aunts than maternal uncles, a finding also similar to that with homosexual male non-transsexuals (Green and Keverne, 2000).

Several small sample reports on transsexualism involve siblings. An early pair of monozygotic twin males concordant for transsexualism was described (Anchersen, 1956). However, two pairs of monozygotic twins, one male and one female, discordant for transsexualism were later described (Green and Stoller, 1971). Then a male monozygotic twin pair, concordant for transsexualism and discordant for schizophrenia, was reported (Hyde and Kenna, 1977). Transsexualism was also found in two male triplets with unreported zygosity, who had a non-transsexual sister (McKee, Roback, and Hollender, 1976). A pair of male transsexual non-twin brothers was reported (Ball, 1981), as were two other pairs of transsexual, non-twin brothers (Stoller and Baker, 1972; Hore, Nicolle, and Calnan, 1972). There is a report of three non-twin transsexual brothers (Sabalis *et al*., 1974). Reported here are 10 brief vignettes with the cooccurrence of transsexualism, now diagnosed as gender identity disorder, or transsexualism and transvestism in siblings or parent–child pairs.

METHODS

Cases were seen at the Gender Identity Clinic, Charing Cross Hospital, London, the principal clinic for gender-dysphoric males and females in the United Kingdom. Nearly all patients were interviewed by the author, and some also by the author's colleagues. For other vignettes, information was obtained from a patient about a family member or from patient charts.

Case One: Monozygotic Twins Concordant for Male-to-Female Transsexualism

Twin One

A monozygotic transsexual male twin who wanted to be female since age 8. Initially evaluated at 35. Cross-dressing in sister's clothes was recalled from age 10, an activity shared by co-twin. Cross-dressing was sexually arousing in teens. First married as a late adolescent for 4 years and had a child. Remarriage at age 26 with another child. Divorced. Sexual relationships have been only with females, but some current sexual attractions are to males. Alcohol consumption had been heavy, but there has been abstinence for years. Co-twin continues to drink excessively. Female hormone treatment at age 35. Episode of paranoid schizophrenia at age 40. Referred for sex reassignment surgery at age 44.

Twin Two

Co-twin initially evaluated at age 36. Reported that the twins have never been close and that they were treated comparably by their parents. Fetishistically transvestic from adolescence through adulthood, with sexual arousal to cross-dressing only diminishing with estrogen treatment. Married for 3 years with one child. Divorced. Sexual attractions to females. Commenced female hormone treatment at age 37. Sex reassignment surgery at age 43.

Case Two: Male-to-Female Transsexual Brothers (Example 1)

A preoperative transsexual male initially evaluated at age 24. Has a brother 2 years older who is a postoperative male-to-female transsexual (not interviewed) who obtained surgery at age 26. Early memories include being closer to girls and disliking boyish activities. Preferred playing with sister's dolls, not with cars or trucks. Dressed up in mother's clothes from age 7. Felt like a woman from age 13. Regular cross-dressing from age 16. Cross-dressing reported as not sexually arousing. Sexual relationships only with males. Female hormone treatment at age 24. Sex reassignment surgery at age 30.

Both sons are reported by mother to have strongly preferred playing with girls' toys as youngsters. Mother initially considered it to be a passing phase. Brought her two sons to see a psychiatrist when they were ages 8 and 10 because she was concerned about their continuing cross-gender behavior. Mother denies encouraging feminine behavior and says they obtained dolls from their sister. She also reported that one of her sisters is lesbian.

Case Three: Male-to-Female Transsexual Brothers (Example 2)

Younger brother 24 years old when initially referred to a gender identity clinic. Had been cross-dressing since age 10. Girls' toys and girl playmates were preferred. Cross-dressing had been sexually arousing. Sexual partners were female. Female hormone treatment at age 25. Sex reassignment surgery at age 29. At age 32, was unhappy living as a woman, wanted reversal to male status to function sexually with a female. Received androgen. Considered but did not undergo phalloplasty. At age 40, stopped androgen because of "excessive" facial and body hair. Reported "Still at heart I would like to live as a woman." Older brother by 6 years (not interviewed) also underwent sex reassignment surgery. By younger brother's account, older brother was not doing well socially or vocationally postoperatively, but continued to live as a woman.

Case Four: Male-to-Female Transsexual Brothers (Example 3)

Brother One

Initially consulted a gender identity clinic at age 45. Commenced cross-dressing at age 7. Female peer group in childhood. Hated sports. In teens, cross-dressing was sexually arousing, and thought he was transsexual. Married in mid-twenties. Began female hormone treatment at age 52, while still married. Learned that brother was a postoperative transsexual and confided his own transsexualism to brother. Began living as a woman at age 57. Referred for sex reassignment surgery at age 61.

Brother Two

Seven years younger. Initially consulted a gender identity clinic at age 36. Cross-dressed since middle childhood. Married 7 years and divorced. Commenced cross-gender living at age 38, several years before older brother commenced cross-gender living. Female hormone treatment at age 40. Sex reassignment surgery at age 41.

Case Five: Female-to-Male Transsexual with Transvestic Father

Initially evaluated at age 29. Remembers "peeing against the wall" as a 3-year-old girl. Refused to play with dolls and played with cars. Friends were mostly boys. Refused to dress as a girl. Realized she did not have a penis but thought she was a boy anyway. Parents separated when she was age 5 and she

lived with father. Felt rejected by him and feels that perhaps had she been a boy he would have been more accepting. At age 14, before the first menstrual period, thought she was a boy and would become a man. Erotic fantasies engage female partners. First knew about father's transvestism when, at age 14 or 15, saw a photograph of him cross-dressed. Father acknowledged regular cross-dressing to her.

Case Six: Male-to-Female Transsexual with Gender-Dysphoric Father

Son

Gender dysphoria dates to age 5 or 6 when he became fascinated with mother's clothes and dressed as a woman in a play. At age 8 did not want his penis. Cross-dressing from age 10 or 11. At ages 12 to 14, cross-dressing was accompanied by sexual arousal. Married at age 20 and remained married for 16 years. One child. Sexual relationship with wife accompanied by fantasies of being a woman. Initially clinically evaluated at age 30. Female hormone treatment commenced at age 32. Current masturbation fantasies are of sexual relations as a female, perhaps with a male partner.

When 30 years old was visited by the 59-year-old father, who told this son that he had been dressing as a woman for 2 years. Father asked son for permission to use the son's female hormones.

Father

Feminine interests from age 8 or 9. Cross-dressing in sister's clothing between ages 10 and 12. Cross-dressing reported as not accompanied by sexual arousal. Was currently intermittently dressing as a woman at home. Had consulted a surgeon for sex reassignment surgery, but did not go forward for fear that his wife would leave him. Not seen at a gender identity clinic until age 60. Two children, one of whom is the transsexual patient described previously. Was being treated with estrogen at the time of his death from a pulmonary embolus.

Case Seven: Transsexual Father with Gender-Dysphoric, Transvestic Son

Son

A 28-year-old who recalls female role-playing at age 5 and discomfort being a boy from age 7. Father left the home when son was age 9. Cross-dressing was sexually arousing at age 11. Most sexual attractions have been to females. When

age 14 or 15, was told by mother that father was living as a woman. Son remains deeply troubled by his gender dysphoria and transvestism.

Father

Initially consulted a physician for gender dysphoria at age 41. Reported feeling wrong as a male since childhood. Cross-dressing from age 16, initially sexually arousing. No sexual attraction to males. Full-time cross-gender living at age 44. Female hormone treatment at age 45. Sex reassignment surgery at age 55.

Case Eight: Gender-Dysphoric, Formerly Transvestic, Son with Transvestite Father

Son

Initial contact with a gender identity clinic at age 42. Felt different from other boys when young. Preferred female playmates. Cross-dressing from age 11. Cross-dressing sexually arousing from teen years. Gender dysphoric from age 22. Sexually attracted to females. Commenced estrogen treatment and cross-gender living at age 43.

Father

When father died at age 56, mother found women's clothes secreted in his closet. Father had had long fingernails and permed hair. Son never saw father cross-dressed.

Case Nine: Male Transsexual with Gender-Dysphoric Sister

Brother

Initially evaluated at age 22. Enjoyed girls' toys as a child. Remembered wanting to be a woman since age 12. Was conscious of sexual interests in males from age 10 or 11. "Never fitted in" as a boy. Voice barely broke (by patient's accounting) during adolescence, although puberty did commence at age 12. A small degree of adolescent breast development. Did not develop much facial or body hair. Testosterone level below normal and estrogen level high normal prior to endocrine therapy. Sexual attractions are to men as a woman. Sex reassignment surgery at age 28.

Sister

A 27-year-old female who reports being "convinced she is male inside since age 3." Hates her body. Although gender dysphoric, decided not to pursue sex reassignment because of surgical deficiencies with phalloplasty and not wanting to go through all the social changes required. Would have wanted a sexual relationship as a male with a female. No sexual interest in males. Recalls that brother wanted to dress as a girl and play with girls' toys from a young age, and she, 4 years older, wanted to play with guns and with boys.

Case Ten: Two Transsexual Sisters

Sister One

An 18-year-old female who has been gender dysphoric since age 11. At age 13, with younger sister who was then age 11, saw a television documentary about transsexualism. Both sisters expressed their gender dysphoria and resonated with the documentary. Hates her body. Romantic feelings for females. Refuses to consider the possibility of being lesbian. Is receiving androgen injections.

Sister Two

A 15-year-old female who at age 11 was gender dysphoric in a manner comparable to the older sister. Was uncomfortable with her body and felt as if she were a boy. Romantic feelings for females. Refuses to be lesbian. Wants to initiate androgen treatment.

Mother and father describe both daughters as having been rough-and-tumble when very young and also being athletic. Both played games with boys and with father. Both disliked dolls. Younger daughter said when in preschool, "I'm waiting for my willy to grow."

DISCUSSION

The prevalence of male transsexualism is estimated at 1 in 10,000 and female transsexualism at 1 in 30,000 (Kesteran *et al*., 1996). Thus, for a set of male twins or two brothers in a two-sibling family, the odds for both being transsexual are 1/100,000,000, assuming random selection, or 1/10,000 when one sibling is already identified as transsexual. It is somewhat lower in larger families with more siblings, but higher in male–female sibling pairs. The rarity of both transsexualism and transvestism makes the chance cooccurrence in father and child very improbable. The cases here are called from a patient pool of about 1,500.

Father–child co-existing gender identity disorder or gender identity disorder and transvestism in our sample cannot be explained simply by evoking role modeling. This is because the children ostensibly did not know of the father's atypical gender behavior before they themselves manifested atypical gender behavior.

Familial cases of gender identity disorder were reviewed by Freund (1985) and categorized as concordant or discordant for sexual orientation. No instances of a mixed heterosexual and homosexual pattern in the same family were found. The interpretation was that the two groups of gender-identity disorder have different etiologies. In the 10 family series reported here, only Case Five contains a mixed heterosexual/homosexual family pair.

This brief report is intended to stimulate study of families with cooccurring gender dysphoria, transsexualism, or transvestism. It is not intended as a full clinical description of the patients. The vignettes do not detail potential social learning or psychodynamic influences on these persons' atypical development. Rather, their reporting here suggests promise for sophisticated genetic studies of such families with the newly emergent techniques of genetic science. Genetic marking technology should make family tree studies with such persons practical. This has already yielded positive results in the study of origins of male homosexual orientation in families with more than one homosexual male sibling (Hamer *et al*., 1993).

Clinicians evaluating and treating gender-identity patients with a positive family history should, with patient's consent, collect and store blood samples for future genetic analyses. Clinicians seeing patients in whose families gender dysphoria cooccurs should contribute to a family research database. Some concordant cases find their way into the popular media; for example, a women's weekly magazine report of female identical twins concordant for transsexualism (Broadbent, 1996). These cases must be reported in scholarly publications. In consequence of the rarity of transsexualism, a pooling from the various centers worldwide is required to take this attempt to understand the origins of this vexing disorder to the next level.

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